A3G710-AN48-94

EC axial fan - HyBlade

sickle-shaped blades (S series)

A3G710-AN48-94 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**A3G710-AN48-94**
Motor	**M3G112-GA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	710
Power consumption	W	460
Current draw	A	2.0
Max. back pressure	Pa	75
Max. back pressure	inH2O	0.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	40.5	31.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		49.2	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.42
09 Air flow q_v	m^3/h	8770
09 Pressure increase p_{fs}	Pa	64
10 Speed (rpm) n	min^{-1}	705
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-120172

ebmpapst

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Technical description

Weight	10.7 kg
Fan size	710 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert, sprayed with PP plastic
Number of blades	5
Blade pitch	0°
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F4-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Operation and alarm display - Selection of direction of rotation left/right - Input for sensor 0-10 V or 4-20 mA - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 55022 (Class A, industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE

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Approval	EAC

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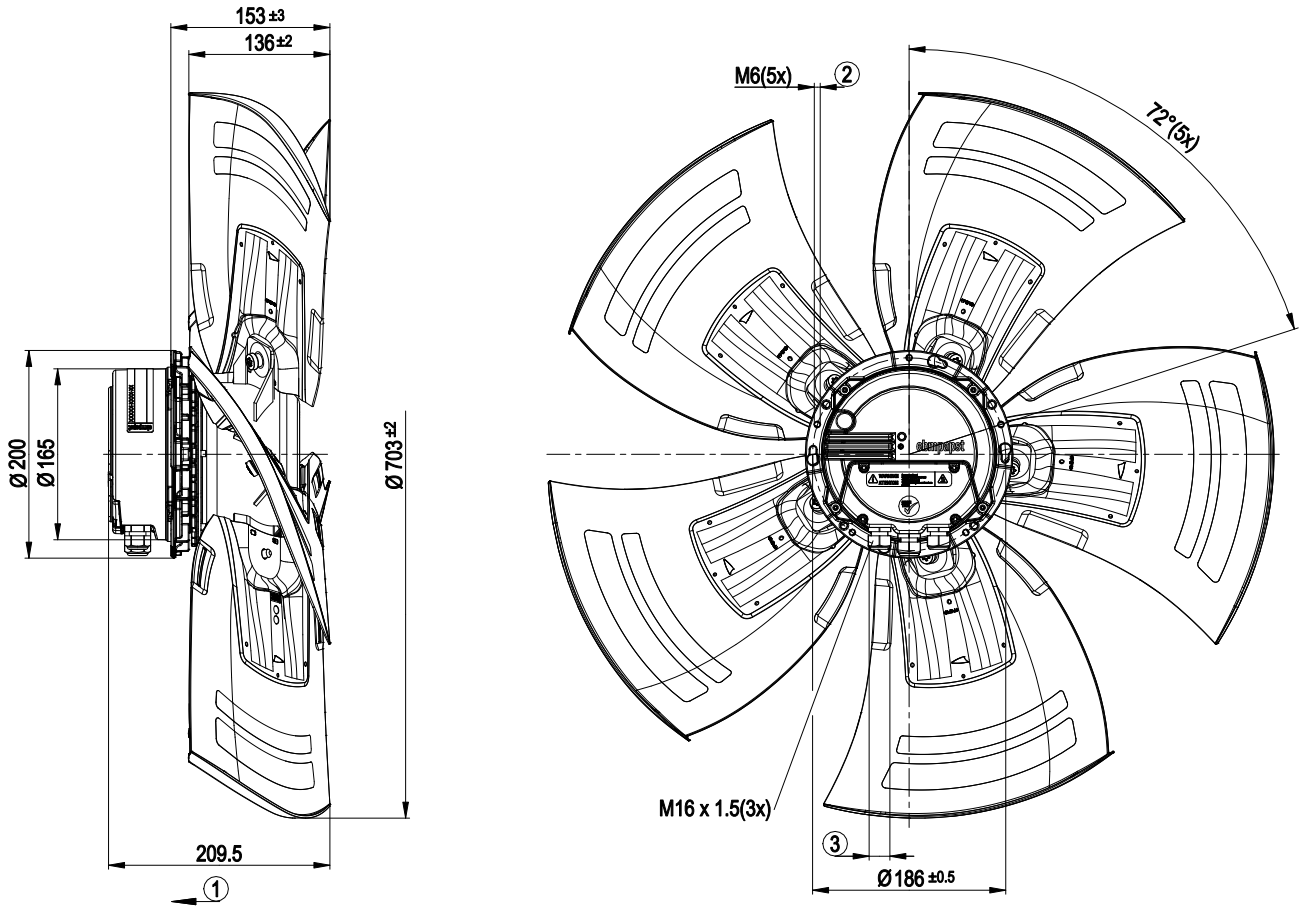
Product drawing



1	Direction of air flow "V"
2	Max. clearance for screw 16 mm
3	Cable diameter min. 4mm, max. 10mm; tightening torque 2.5±0.4 Nm
4	Tightening torque 3.5 ± 0.5 Nm

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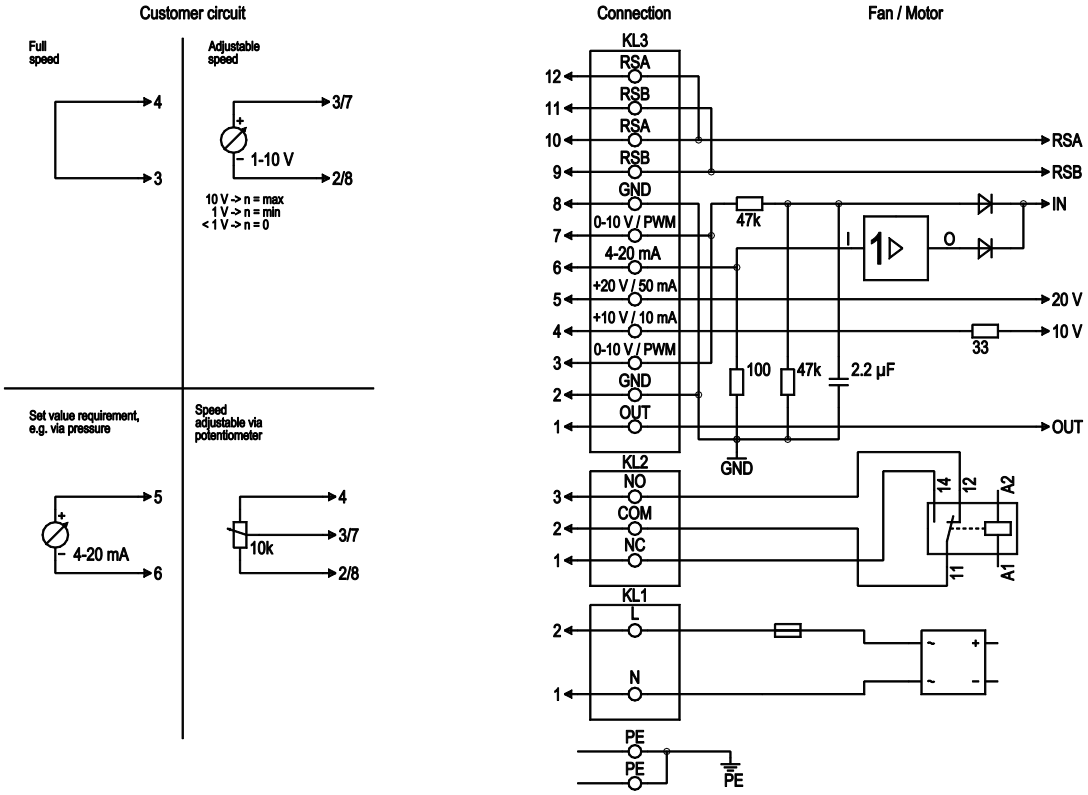
Connection diagram



No.	Conn.	Designation	Function/assignment
PE	-	PE	Protective earth terminal
KL1	1, 2	N, L	Power supply 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
KL2	2	COM	Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, make for failure
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV output of current motor modulation level: 1 V corresponds to 10% modulation level. 10 V corresponds to 100% modulation level.
KL3	2, 8	GND	Reference ground for control interface, SELV
KL3	3, 7	0-10 V	Control/current sensor value input 0-10 VDC, impedance 100 kΩ, use only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (+/- 3%), max. 10 mA, power supply for ext. devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA power supply for ext. devices (e.g. sensors), SELV
KL3	6	4-20 mA	Control/current sensor value input 4-20 mA, impedance 100 Ω, use only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for MODBUS, RSB
KL3	10, 12	RSA	RS485 interface for MODBUS, RSA

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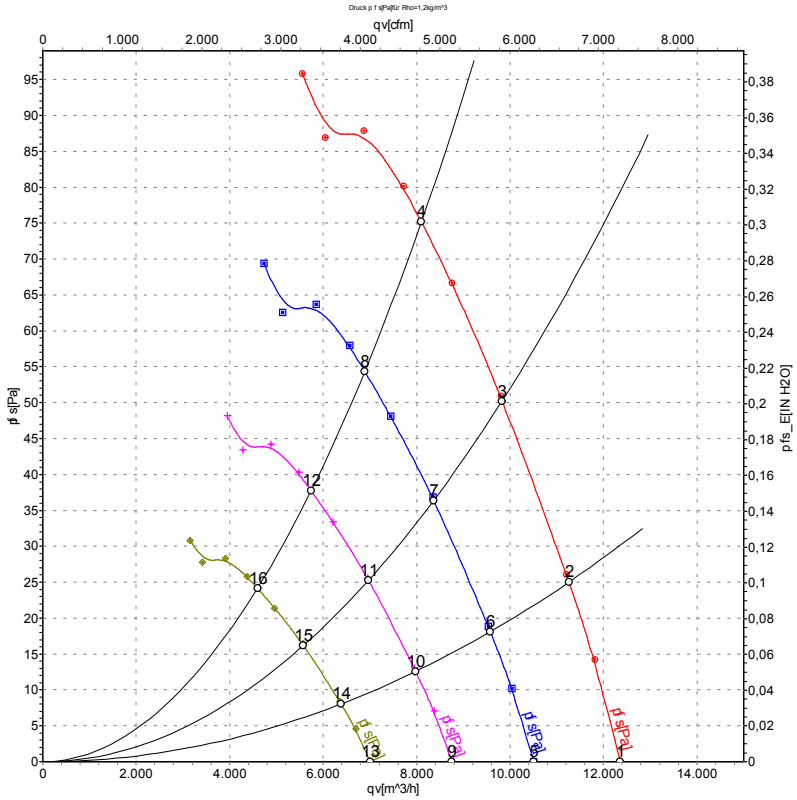
Curves: Air performance 50 Hz



Measurement: LU-120172-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	710	280	1.24	58	65	64	12360	0	7275	0.00
2	230	50	710	340	1.50	57	64	63	11260	25	6625	0.10
3	230	50	710	395	1.73	58	64	64	9830	50	5785	0.20
4	230	50	710	460	2.00	64	71	71	8105	75	4770	0.30
5	230	50	600	172	0.76	54	61	61	10510	0	6185	0.00
6	230	50	600	210	0.92	54	60	60	9575	18	5635	0.07
7	230	50	600	244	1.07	54	61	61	8365	37	4925	0.15
8	230	50	600	276	1.21	61	67	67	6890	54	4055	0.22
9	230	50	500	99	0.44	50	57	57	8755	0	5155	0.00
10	230	50	500	121	0.53	50	56	56	7980	13	4695	0.05
11	230	50	500	141	0.62	50	57	57	6970	26	4105	0.10
12	230	50	500	160	0.70	57	63	63	5745	38	3380	0.15
13	230	50	400	51	0.23	46	52	52	7005	0	4125	0.00
14	230	50	400	62	0.27	45	51	51	6385	8	3755	0.03
15	230	50	400	72	0.32	45	52	52	5575	16	3280	0.06
16	230	50	400	82	0.36	52	58	58	4595	24	2705	0.10

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · qv = Air flow · p_{fs} = Pressure increase